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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Brent D. Lunceford

Group Art Unit: Unknown

Serial No.: 09/351,750

Examiner: Unknown

Filed: Concurrently Herewith

Atty. Dkt. No.: TERV:004USD1

For: REWORKABLE ENCAPSULANT

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Commissioner:

Please amend this application as follows:

In The Specification

At page 2, line 1, insert the following:

--This is a divisional of co-pending application Serial No. 09/351,750, filed

July 8, 1999, which claims priority to provisional application Serial No. 60/131,617 filed April 28, 1999.--

In the Claims

Cancel claims 1-20, without prejudice.

Please add new claims 32 and 33 as follows:

32. (New) An electronic device module having an improved protective coating, comprising:
- (a) a substrate;
 - (b) at least one electronic device operably connected to the substrate; and
 - (c) a fluorinated polymer encapsulant protectively adhered about at least a portion of the at least one electronic device, wherein said fluorinated polymer encapsulant is capable of being reworkably removed with a solvent that will not adversely chemically react with said at least one electronic device.
33. (New) An electronic apparatus, comprising:
- (a) an electronic device; and
 - (c) a fluorinated polymer encapsulant protectively adhered about at least a portion of the electronic device, wherein said fluorinated polymer encapsulant is capable of being reworkably removed from the device with a solvent that will not adversely chemically react with said device.

REMARKS

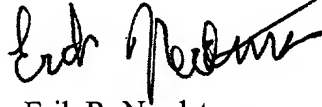
Claims 1-20 were prosecuted in the parent case, application Serial No. 09/351,750 and thus have been canceled from this divisional application. The parent application was allowed on May 30, 2001 but has not yet issued.

The active claims in the present divisional case are claims 21-33. For the Examiner's convenience, the pending claims are attached hereto as Appendix A.

The specification has been amended to recite the relationship with the parent case.

It is believed that no fee is due; however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason, the Commissioner is authorized to deduct said fees from Fulbright & Jaworski L.L.P. Account No.: 50-1212/10107962/ERN.

Respectfully submitted,



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Date: October 22, 2001

APPENDIX A - PENDING CLAIMS

21. An electronic device module having an improved protective coating, comprising:
 - (a) a substrate;
 - (b) at least one electronic device operably connected to the substrate; and
 - (c) a fluorinated polymer encapsulant protectively adhered about at least a portion of the at least one electronic device.
22. The module of claim 21, wherein the substrate is a printed circuit board.
23. The module of claim 21, wherein the substrate and the at least one electronic device comprise a chip scale package.
24. The module of claim 21, wherein the substrate and the at least one electronic device comprise a chip scale package.
25. The module of claim 21, wherein the electronic device is a flip-chip having an interconnect side facing the substrate.
26. The module of claim 25, wherein fluorinated polymer is used as underfill between the substrate and the interconnect side of the at least one flip chip.
27. The module of claim 21, wherein the fluorinated polymer includes an HFIP bearing thermoplastic.
28. The module of claim 27, wherein the fluorinated polymer encapsulant comprises two or more layers of the HFIP thermoplastic.
29. The module of claim 21, further comprising an epoxy encapsulant sandwiched between the at least one electronic device and the fluorinated polymer encapsulant.

30. The module of claim 21, wherein the fluorinated polymer encapsulant includes microscopic inorganic particles for making the thermal expansion characteristics of the encapsulant closer to those of the at least one electronic device.

31. The module of claim 30, wherein the inorganic microscopic particles comprise silica.

32. (New) An electronic device module having an improved protective coating, comprising:

- (a) a substrate;
- (b) at least one electronic device operably connected to the substrate; and
- (c) a fluorinated polymer encapsulant protectively adhered about at least a portion of the at least one electronic device, wherein said fluorinated polymer encapsulant is capable of being reworkably removed with a solvent that will not adversely chemically react with said at least one electronic device.

33. (New) An electronic apparatus, comprising:

- (a) an electronic device; and
- (c) a fluorinated polymer encapsulant protectively adhered about at least a portion of the electronic device, wherein said fluorinated polymer encapsulant is capable of being reworkably removed from the device with a solvent that will not adversely chemically react with said device.